

**WE CLAIM AS OUR INVENTION:**

1. A valve assembly comprising:

a valve body having a valve opening therein;

a force generator energizable to generate a force;

a shaft in operable connection with said force generator so as to be movable relative to said valve opening dependent on said force to regulate a degree of opening of said valve opening; and

a bearing assembly guiding said shaft in said movement relative to said valve opening, said bearing assembly comprising a magnet arrangement disposed to magnetically suspend said shaft.

2. A valve assembly as claimed in claim 1 wherein said magnet arrangement additionally magnetically biases said shaft in a direction to regulate said degree of opening of said valve opening.

3. A valve assembly as claimed in claim 2 wherein said magnet arrangement magnetically biases said shaft to decrease said degree of opening of said valve opening.

4. A valve assembly as claimed in claim 2 wherein said magnet arrangement magnetically biases said shaft to increase said degree of opening of said valve opening.

5. A valve assembly as claimed in claim 1 wherein said force generator is an electromagnetic force generator comprising a solenoid coil having a coil axis, said solenoid coil being energizable to generate an electromagnetic force, and wherein said shaft is disposed for reciprocal movement in a direction parallel to said coil axis in response to said electromagnetic force to regulate said degree of opening of said valve opening.